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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/386,745	08/31/1999	CANGSHAN XU	257/027	1749

22249 7590 07/31/2002

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EXAMINER

PEREZ RAMOS, VANESSA

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 07/31/2002

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/386,745

Applicant(s)

XU ET AL.

Examiner

Vanessa Perez-Ramos

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 24-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 24-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 and 24-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dudovicz et al. (WO 99/06182), in view of Birang (EP 0 738 561 A1), in further view of Engdahl et al. (U.S. 6,336,845).

In regard to claim 1, Dudovicz et al. discloses an endless belt that may have holes that extend through the belt (from top to bottom), or grooves that extend in the running direction of the belt (from side to side) (Dudovicz, as supplied by Applicant's IDS, page 8, lines 1-7), and makes no mention of any "window" in the belt. This reads on Applicant's "at least one aperture through the belt so that the aperture is substantially free of a window".

Dudovicz is silent about the aperture positioned to allow monitoring of the workpiece through it, nor does Dudovicz disclose a notch or trigger hole, a monitor and a sensor.

Birang discloses an apparatus wherein a hole (30) that is "positioned such that it has a view of the wafer" (Birang, col. 9, lines 32-35), which reads on Applicant's "positioned to allow monitoring of the workpiece".

Engdahl discloses a polishing system that includes a belt, and further comprises a notch or characteristic reference mark (col. 18 lines 18-20), and a monitor and sensor, which sense the workpiece (col. 14, lines 60-67).

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It is the Examiner's position that it would have been obvious to one skilled in the art at the time of the invention to modify Dudocicz by utilizing the aperture(s) to monitor the wafer, and, furthermore, to have a reference mark such as a notch or trigger hole, a monitor and a sensor, as per Birang and Engdahl, because wafer monitoring is an important part of the semiconductor manufacturing process, providing an indication of the polishing progress, which is extremely helpful during semiconductor manufacturing.

In regard to claims 2-7, these claims differ from claim 1 above by describing the number, location and configuration of the apertures in the belt.

Dudovicz is silent about the specific location, number and configuration of his apertures, although it is clear that his apertures have, indeed, a certain configuration, a specific location and are present in a specific amount.

It is the Examiner's position that variations such as shape, number and location of a piece would have been obvious to one of ordinary skill in the art at the time of the invention.

In regard to claims 24-38, these claims differ from claims 1-7 above by including the limitation that the belt further comprises "fluid platens". Engdahl discloses platens that can supply air, a liquid or a vacuum to the belt, which reads on Applicant's "fluid platen" (col. 10, lines 46-50).

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

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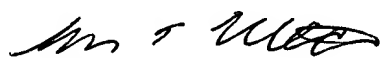
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanessa Perez-Ramos whose telephone number is 703-306-5510. The examiner can normally be reached on Mon-Fri 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech can be reached on 703-308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-5665.

Vanessa Perez-Ramos  
Examiner  
Art Unit 1765

VPR  
July 24, 2002

  
BENJAMIN L. UTECH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700